

#1450788731

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TN 202

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TECHNICAL NOTE

Bureau of Land Management U.S. DEPARTMENT OF THE INTERIOR

POWER WIRE-WINDING MACHINE

Mr. Don Williams of the Shoshone Idaho District has designed and constructed the wire winding machine described below. A monetary award has been approved for Mr. Williams' interest and ingenuity in improving the efficiency of BLM operations.

Although other wire winders are in existence, the majority require farm tractors or vehicles equipped with power-takeoff assemblies.

This unit is designed to fit in the rear of any pickup and if placed in a 4 wheel drive vehicle can negotiate the most rugged terrain. Two men are the minimum for efficient operation. One is detailed to pull staples and wire clips loose from the posts and the other to operate the machine and secure the spools after winding.

It is recommended that at least 2 wire ties be inserted and tied through the center of each wound spool before removing from the winder spool. This prevents unraveling or loosening of the rolled wire.

Type of terrain may be a determining factor in the choice of wire roll size. Normally rolls will be 80 rods which are commercial sizes sold by most manufacturers. However, the machine will wind and pull considerably more length.

Speed of the roll mechanism may be varied by pulley size and engine throttle setting. At 50 RPM drum speed, one mile of wire can be wound in 45 minutes and in 36 minutes at 60 RPM. Time to remove spool and attach new wire is estimated at 5 minutes. These compact rolls can be transported with ease to a storage area or new project site. Manual rolling cannot be attained at this speed, nor can uniformity in size be accomplished. It is estimated that two men would be required to roll up one mile of four-wire fence per day.

A wire dispenser can be placed in the back of a pickup, on a flat bed vehicle, or tractor and strung out along a new fence line at the rate of about two to four miles per hour. With the bulk of a hoop-type manually rolled spool, this is impossible and unrolling time is extended considerably.

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WIRE WINDER

Material Purchased:

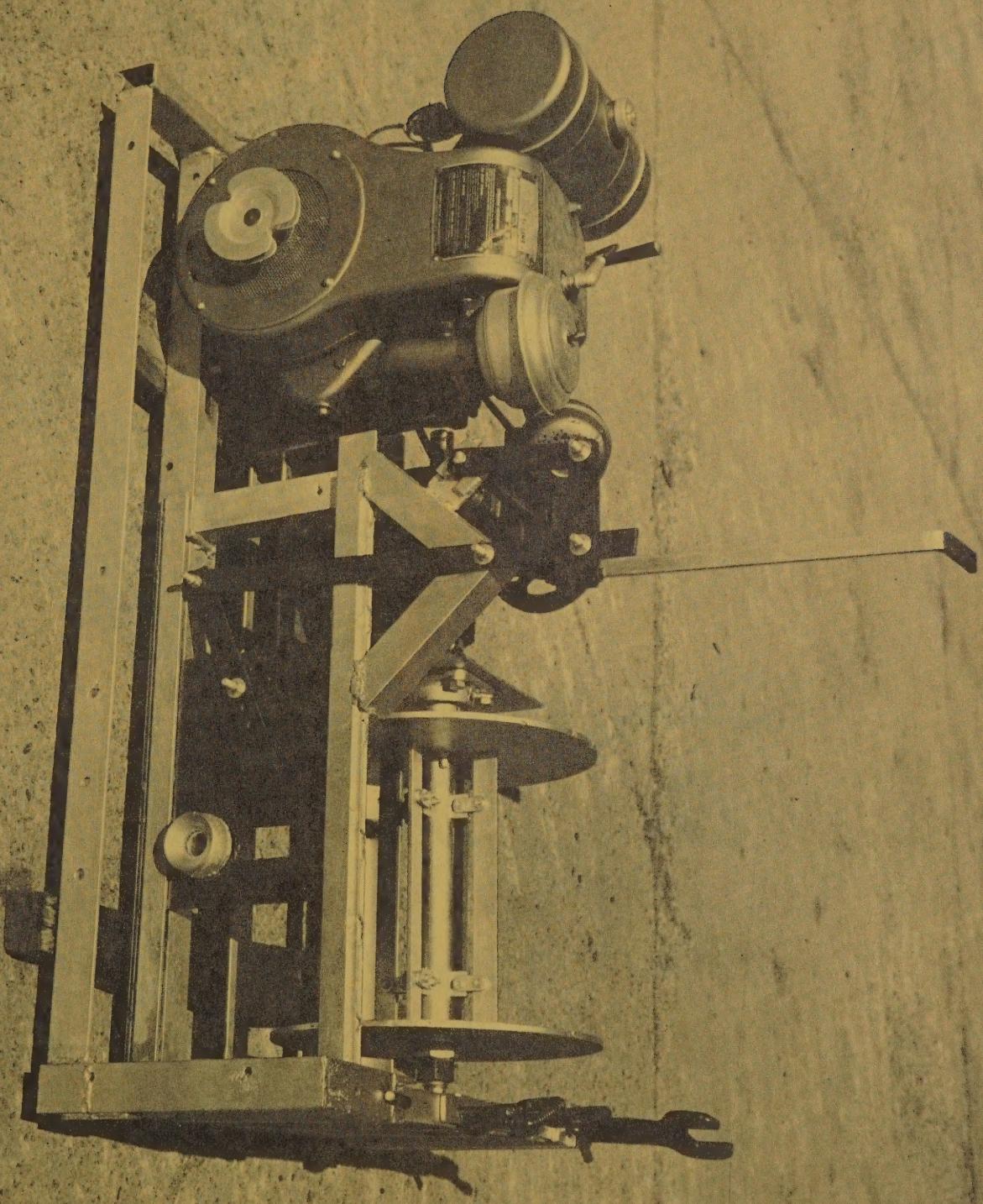
	<u>Cost</u>
Gear Box - 32W Eberhardt, Denver Co., Rating 1800 R.P.M., 64 H.P., 66:1 gear ratio	65.00
Flex Coupling - 2 $\frac{1}{2}$ " O.D. with 1 $\frac{1}{4}$ " slotted center hole	20.00
Cold Roll Shaft - 25"x1 $\frac{1}{4}$ ", Key slot one end, turn and thread one end	22.00
Drum Plates, 2 Each, 16"x $\frac{1}{4}$ "	5.00
Square Shafting, 1 Each, 1"x $\frac{1}{4}$ "x14"	2.00
Flat Ribbon Iron, 4 Each, 1"x $\frac{1}{4}$ "x14"	1.75
Total	<u>\$115.75</u>

Salvage Materials:

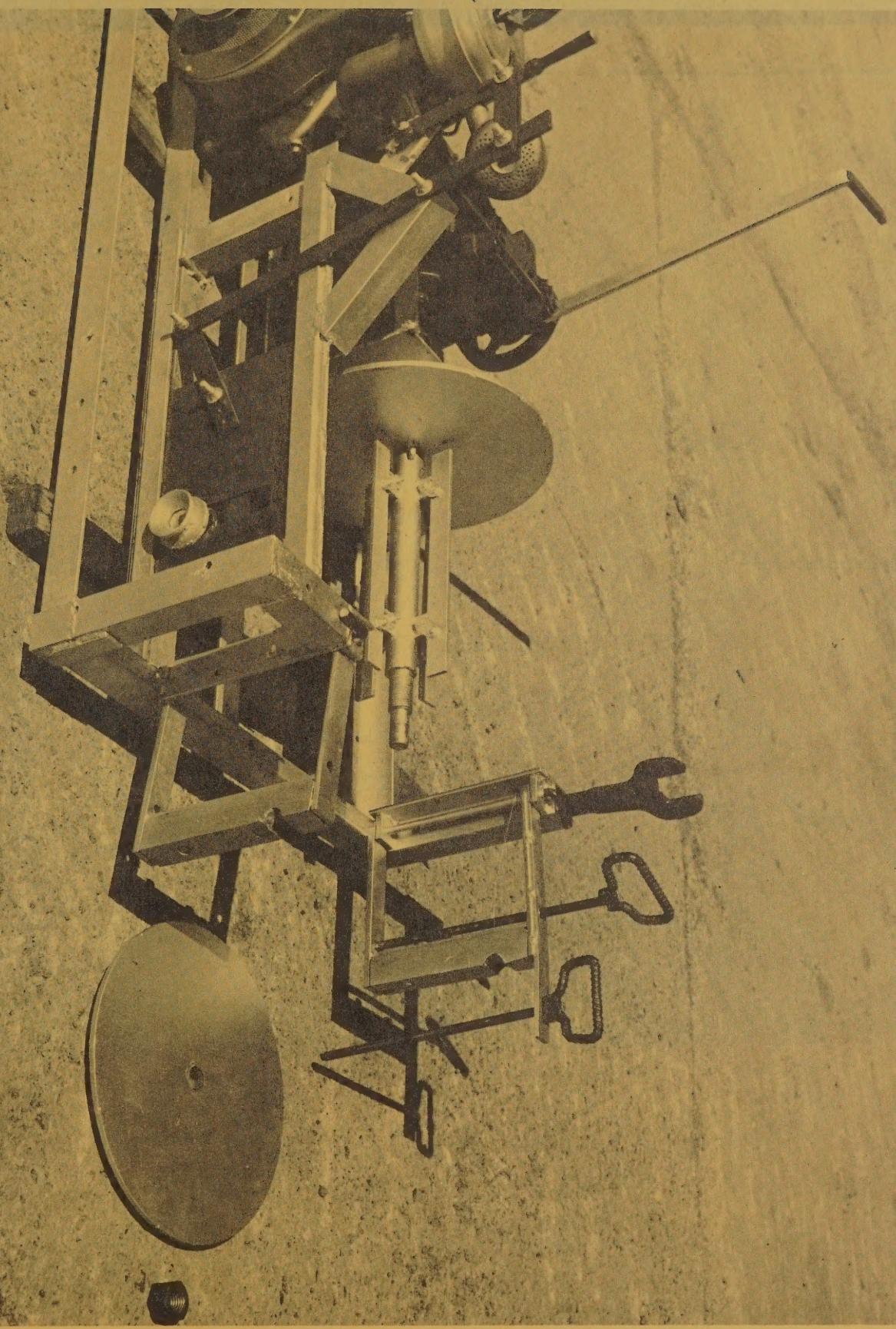
Angle Iron, 35', 2"x2"x $\frac{1}{4}$ ", (Est. salvage cost)	25.00
Handle, 5/8"x3', rod material (Est. salvage cost)	.50
Handle, $\frac{1}{4}$ "x1"x3', flat (Est. salvage cost)	.50
Wire Guide - Pipe 1 $\frac{1}{2}$ "x3" and welded washers	1.00
Gate Hinge Pins, 5/8"x5'	.25
Hard Wood Blocks, Bearing and Frame	2.00
Engine - Complete Overhaul	22.00
Estimated Labor Charge - Complete Assembly - 24 hrs.	84.00
Total	<u>\$135.25</u>

GRAND TOTAL - \$251.00

If all parts could be obtained at once, assembly time can be reduced.
Also, with the gear box assembly operating engine can be reduced to
1 - 3 H.P.



WIRE WINDING MACHINE



WIRE WINDING MACHINE

LEVEL WINDER

SPECIFICATIONS

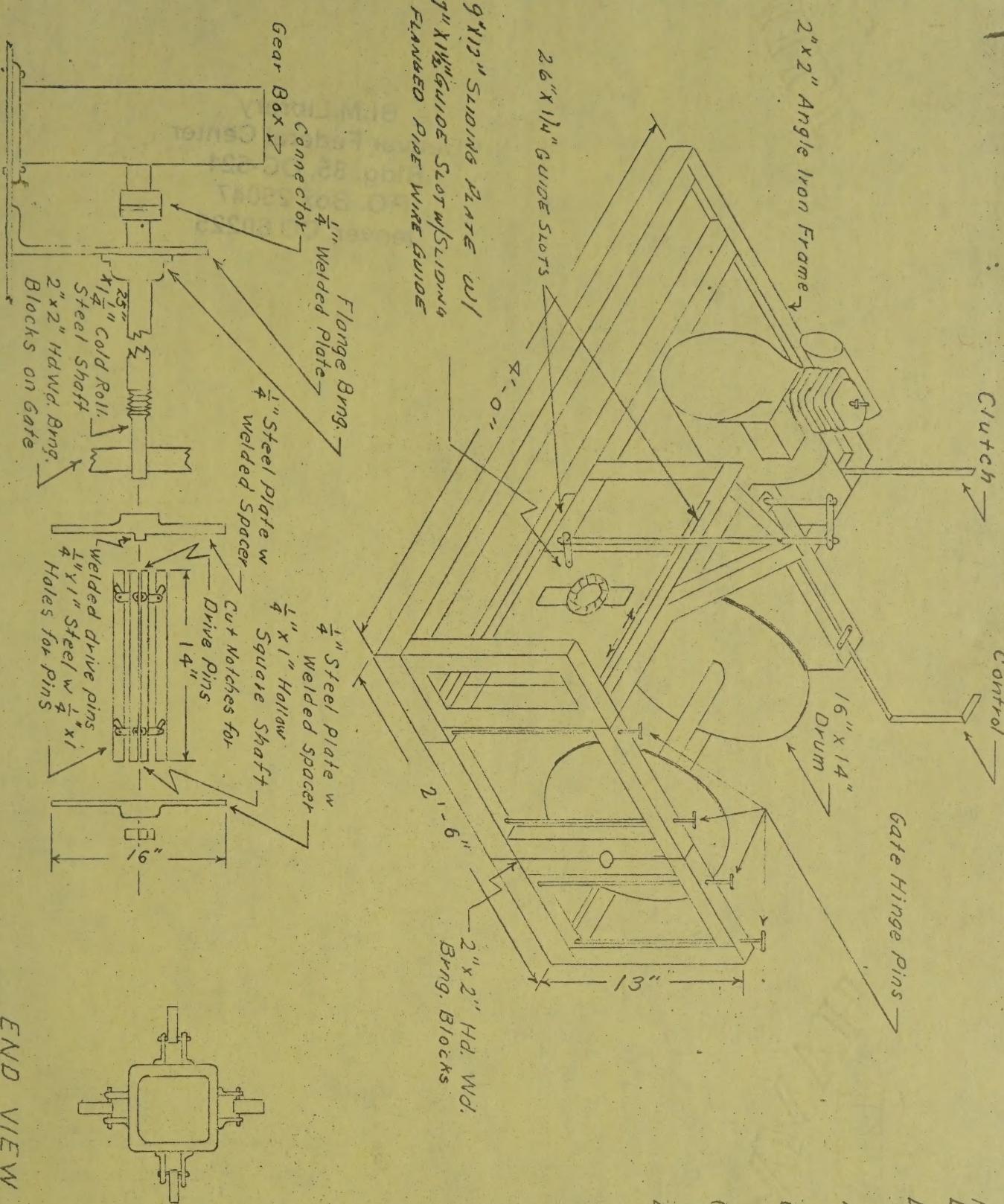
FRAME - 2" X 2" X 1/4" ANGLE, WELDED AS SHOWN
 LEVEL WINDER CONTROL - 3/8" ROD WELDED TO NRS
 AS SHOWN

DRUM - 1/4" X 16" DIAM. STEEL PLATE W/ 1/2"
 SPACERS WELDED ON BRNG. SIDES. DRILL 1/2"
 HOLE AT CENTER. FIT TO AXEL SHAFT.

GATE - 2" X 2" X 1/4" ANGLE W/ 1/4" PINS TO ALLOW
 REMOVAL OF WIRE GROOVES. ATTACH 2" X 2"
 THREADED OTHER END, AND TURN END TO FIT
 HARDWOOD BRNG. BLOCK.
 H.R. NO. BROS. BLOCKS TO ANVIL IRON.

GEAR BOX - SIZE 32W EBERHARDT - DENVER CO.
 BOX. 1800 R.P.M., 64 H.P., 66:1 RATIO.

ENGINE - MODEL AENL, 5 H.P., WISCONSIN
 ENGINE WI. CLUTCH, BELTED 1:1 TO GEAR
 BOX.



WIRE WINDER

U.S. DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 SHOSHONE DISTRICT

SIDE VIEW-DRUM ASSEMBLY

END VIEW
 WIRE HOLDER

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